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EXAMINER

TANG, KENNETH

ART UNIT	PAPER NUMBER
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2195

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,520

Applicant(s)

PELED ET AL.

Examiner

Kenneth Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the Amendment filed on 7/21/05.
2. Claims 17-34 are presented for examination.

Claim Objections

3. Claim 7 is objected to because of the following informalities: “start_executing” should be changed to “start executing”. Appropriate correction is required.

Specification

4. The amendment filed 7/21/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

- a. On page 2, utilizing the shared resources (at a command level) is new matter. The addition of the “command level” alters the scope.
- b. On page 4, the addition of “master” and “slave” is new matter. These terms alter the scope of a higher level processor and a lower level or command processor.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 24-30 are directed to a control system which is not claimed as tangible and could be practiced mentally (abstract), therefore being directed to non-statutory subject matter. The examiner suggests applicant to change “control system” to “computer control system” in the preamble to overcome the outstanding 35 U.S.C. 101 rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention:

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- a. In claims 17, 24, and 33, the limitation “allowing one or more subcommands of one command to start_executing while subcommands of another command are not finished executing” could not be found in the Specification.
- b. In claims 25-26, the limitations “master” and “slave” was objected for new matter, and therefore, is rejected under 35 U.S.C. 112, first paragraph due to not having possession of the claimed limitations.
- c. In claims 17, 24, and 33, the limitation “at a command level” was objected for new matter, and therefore, is rejected under 35 U.S.C. 112, first paragraph due to not having possession of the claimed limitations.
- d. In claim 30, the term “the queue” (line 4) lacks antecedent basis.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2. Claims 21, 24-32, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

- e. The following is indefinite:
 - i. In claim 21, the limitation “the combined priority being determined based on the subcommand’s priority in the command and the priority of said command, so that the higher is priority of the command, the more priority of any of its subcommands is raised.” is indefinite because it is grammatically incorrect and does not make any sense. The limitation defining the “combined priority” is not clear.

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- ii. In claim 34, it is indefinite because it is unclear whether claim 34 is a control system claim or a method claim. Applicant is required to put claim 34 in independent form.
- b. The following lacks antecedent basis:
 - i. Claim 24, "the respective subcommands", lines 17-18.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stumer (US 2002/0064271 A1) in view of Coffman et al. (hereinafter Coffman) (US 6,553,438 B1).

3. As to claim 17, Stumer teaches a method for utilizing shared resources (database) in a computerized system (optimization system includes a database and a database server) at a command level, with the aid of a processor for processing a plurality of commands and executing thereof using two or more of said shared resources, the method comprising steps of:

deriving, from each of said commands, subcommands (subroutine) respectively related to said shared resources (database) (*page 1, [0016], page 4, [0037]*),

assigning priorities to said subcommands (subroutine) (*page 5, [0049]*),

forwarding said subcommands to the respective two or more shared resources, so that each of said queues comprises the subcommands related to a particular shared resource (*page 4, [0037]*),

executing the subcommands from said queues by said shared resources in an asynchronous manner, and according to said subcommand priorities by each of the shared resources, by allowing one or more subcommands of one command to start_executing while subcommands of another command are not finished executing (asynchronous execution from the ATM) (*page 2, [0027], page 5, [0049], [0034]-[0035]*).

4. Stumer teaches processing using commands and subroutine. However, Stumer fails to explicitly teach wherein at least one command of said plurality comprises two or more subcommands to be executed at different said two or more shared resources. However, Coffman teaches using a plurality of functions or commands with a plurality of subroutines for resource shared in a pool executing asynchronously or synchronously (col. 6, lines 22-39 and col. 9, lines 39-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of at least one command of said plurality comprises two or more sub-commands to be executed at different said two or more shared resources to the existing shared resource utilization system of Stumer because this would increase control by the commands and sub-commands (subroutines) being able to invoke each other and pass data and/or parameters between each other as needed.

5. Stumer teaches storing data such as priority and instructions (functions and subroutines) in a database (shared resource) and a memory register, but fails to explicitly teach that the

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database contain queues as the data structure. However, "Official Notice" is taken that both the concept and advantages of providing that storing with queues as a data structure is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the database containing queues to the existing system in order to have a data structure that is able to contain (store) data.

6. As to claim 20, Stumer teaches wherein the step of assigning priorities to said subcommands comprises defining one group of the subcommands as critical subcommands for execution of their respective commands, and another group of the subcommands as non-critical commands for execution of their respective commands, wherein priorities of the critical subcommands are higher than priorities of the non-critical subcommands (a high priority is critical, while a lower priority is non-critical) (*page 5, [0049], etc.*).

7. **Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stumer (US 2002/0064271 A1) in view of Coffman et al. (hereinafter Coffman) (US 6,553,438 B1), and further in view of Cota-Robles (US 2001/0056456 A1).**

8. As to claim 18, Stumer fails to explicitly teach assigning different command priorities to said commands, wherein the command priorities set an order of their urgency. However, Cota-Robles teaches priorities are typically assigned to programs according to the importance and/or urgency of the functions they perform on behalf of the computing system (*page 1, [0004]*). It

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would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of assigning different command priorities to said commands, wherein the command priorities set an order of their urgency to the existing system because these priorities of urgency are used to determine when and for how long a program or a unit of executable code within the program is granted access to the processor and also optimizes the computer system's performance by, for example, minimizing response time to user input, maximizing throughput, and/or guaranteeing predictable execution times for application programs (*page 1, [0004]*).

9. As to claim 19, Stumer (*page 5, [0049], etc*) in view of Cota-Robles (*page 1, [0004], etc.*) teaches wherein the step of assigning priorities to said subcommands comprises assigning to them the priority equal to that of the command from which the subcommands are derived.

10. **Claims 22-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stumer (US 2002/0064271 A1) in view of Coffman et al. (hereinafter Coffman) (US 6,553,438 B1), and further in view of Bales et al. (hereinafter Bales) (US 5,386,466).**

11. As to claims 22-23, it is rejected for similar reasons as stated in the rejection of claim 17. In addition, Stumer teaches creating reports (monitoring and statistics unit) relating to said commands (*Abstract, etc.*). Stumer and Coffman fails to explicitly teach having responses for successful completion or partial reports. However, Bales teaches a telecommunication system that reports relevant information to a control processor before and after completion. It would

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have been obvious to one of ordinary skill in the art at the time the invention was made to combine Stumer and Coffman with Bales in order to increase awareness and anticipation (*see Abstract and col. 1, lines 50-68 through col. 2, lines 1-27, etc.*).

12. As to claim 24, it is rejected for similar reasons in the art of rejections for claim 17.

However, Stumer and Coffman do not teach forming reports of successful completion or partial reports concerning respective commands. However, Bales teaches a telecommunication system that reports relevant information to a control processor before and after completion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Stumer and Coffman with Bales in order to increase awareness and anticipation (*see Abstract and col. 1, lines 50-68 through col. 2, lines 1-27, etc.*).

13. As to claim 25, Coffman teaches a master processor capable of cooperating with said command processors being slave processors; said master processor being operative to distribute the commands between said command processors, and receive from said command processors reports of successful completion concerning the respective commands (host and target) (*see Fig. 1, etc.*).

14. As to claim 26, it is rejected for the same reasons as stated in the rejection of claim 24. In addition, the priority is sorted as performing the higher priority first.

15. As to claim 27, it is rejected for the same reasons as stated in the rejection of claim 26.
16. As to claim 28, Bales teaches wherein at least one of said command processors is capable of issuing a preliminary report with respect to a particular command of said plurality, before the particular command is completely executed, the preliminary report is based on one or more said responses of successful completion concerning the critical subcommands of the particular command (*see Abstract, etc.*).
17. As to claim 29, Stumer teaches additionally comprising two or more input memory buffers respectively associated with said two or more of the shared resources, for gathering and queuing said subcommands of different commands to be input to the shared resource, and two or more output memory buffers for queuing responses when outputted from the respective shared resources (*page 3, [0031] and [0034]*).
18. As to claim 30, it is rejected for the same reasons as stated in the rejection of claim 26. In addition, Bales teaches storing in a queue (*Fig. 16, etc.*).
19. As to claim 31, it is rejected for the same reasons as stated in the rejection of claim 24. In addition, Stumer teaches controlling a telecommunication network (public telecommunication network/exchange) (*page 2, [0027]*).
20. As to claim 32, it is rejected for the same reasons as stated in the rejection of claim 24.

21. As to claim 33, it is rejected for the same reasons as stated in the rejection of claims 24 and 30.

22. As to claim 34, it is rejected for the same reasons as stated in the rejection of claim 33.

Allowable Subject Matter

23. Claim 21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

24. Applicant amends the claims and does not make any arguments.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt
9/21/05



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